

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE (USA) INC.,

Petitioner

v.

BELL NORTHERN RESEARCH, LLC,

Patent Owner

DECLARATION OF PAUL MIN, PH.D.

Case No. IPR2019-01438

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I. Introduction

1. My name is Paul Min, Ph.D. I submit this declaration on behalf of ZTE (USA) Inc., (“Petitioner”), which I understand is challenging the validity of claims 9-12 (“the challenged claims”) of U.S. Patent No. 8,416,862 (“the ’862 patent”) (Ex. 1001) in a petition for *inter partes* review.

2. I have been asked to provide an opinion on the validity of the challenged claims. In my opinion, U.S. Patent Application Publication No. 2006/0068718 (“Li”) (Ex. 1005) anticipates claims 9-12 of the ’862 patent. Additionally, the combination of Li, U.S. Patent No. 7,570,696 (“Maltsev”) (Ex. 1006) renders obvious claims 9-12 of the ’862 patent.

3. Furthermore, it is my opinion that, U.S. Patent Application Publication No. 2008/0108310 (“Tong”) (Ex. 1007) anticipates claims 9-12 of the ’862 patent. Additionally, the combination of Tong and U.S. Patent No. 5,541,607 (“Reinhardt”) (Ex. 1014) renders obvious claim 10 of the ’862 patent.

II. Background/Qualifications

4. I summarize in this section my educational background, career history, publications, and other relevant qualifications. Appendix A to this declaration is my curriculum vitae, which sets forth my qualifications.

5. I received a B.S. degree in Electrical Engineering in 1982, an M.S. degree in Electrical Engineering in 1984, and a Ph.D. degree in Electrical

Engineering in 1987 from the University of Michigan in Ann Arbor. I received several academic honors, including my B.S. degree with honors, a best graduate student award and a best teaching assistant award during my M.S. study, and a best paper award from a major international conference for reporting results from my Ph.D. thesis.

6. After receiving my Ph.D., I worked at Bellcore in New Jersey from August 1987 until August 1990. At Bellcore, I was responsible for evolving the public switched telephone network (PSTN) into a multi-services voice and data network that incorporated packet switches, optical technologies, and wireless technologies.

7. In September 1990, I joined the faculty at Washington University in St. Louis. In July 1996, I was promoted to an Associate Professor of Electrical Engineering with tenure. I am currently a Senior Professor of Electrical and Systems Engineering at Washington University. I have also served as the Chair of the Graduate Curriculum (2000-2002) and the Chair of the Undergraduate Curriculum (2011-2014) for the Department of Electrical and Systems Engineering.

8. At Washington University, I have conducted research in communication, computing, and related electronic hardware and software. My research group has pioneered a new paradigm for designing electronic circuits that

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